

REMARKS

Claims 1-61 are now pending in the application. Claims 5-11, 13, 14, 17-21 and 24-59 are withdrawn from consideration. Claims 1-4, 12, 15, 16, 60 and 61 are currently rejected. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the remarks contained herein.

The Applicant believes that the current recitations of all the independent claims are distinguishable from the combination of APA and Watley and the combination of Hideaki and Watley (and even if Penninckx is further combined herewith).

The invention as recited in the independent claims (hereinafter referred to as "the present invention") separates polarization component(s) of the principal state of polarization (PSP) from an optical signal propagated along an optical transmission path, etc.

More specifically, the invention as recited in Claim 1 separates "the polarization component which is parallel to, or the polarization component which is perpendicular to, the principal state of polarization of said optical transmission path".

The invention as recited in Claim 2 separates "the polarization component which is parallel to, and the polarization component which is perpendicular to, the principal state of polarization of said optical transmission path".

The invention as recited in Claim 3 separates "the polarization component which is parallel to, or the polarization component which is perpendicular to, the principal state of polarization of said optical transmission path and said PMD medium".

The invention as recited in Claim 4 separates "the polarization component which is parallel to, and the polarization component which is perpendicular to, the principal state of polarization of said optical transmission path and said PMD medium".

The invention as recited in Claim 12 includes: "a polarization controller which converts the polarization state of the optical signal which has been outputted from said optical signal transmitter; a polarizer which separates out a specified polarization component from the optical signal which is outputted from said polarization controller; a waveform deterioration detector which detects waveform deterioration of the polarization component which has been separated out by said polarizer; a control device which controls said polarization controller so that the waveform deterioration which is detected by said waveform deterioration detector becomes a minimum". As explained on page 38, second paragraph of the specification, the waveform deterioration of the optical signal which has been separated out attains a minimum value in the state in which the polarizer is separating out the polarization component which is parallel (or perpendicular) to the principal state of polarization of the optical transmission path. Therefore, by controlling the polarization controller so that the waveform deterioration attains a minimum value, it is possible to separate out only the optical signal component which has arrived by propagation along the principal state of polarization of the optical transmission path.

The invention as recited in Claim 15 includes: "a polarization controller which converts the polarization state of the optical signal which has been outputted from said optical signal transmitter; a Differential Group Delay (DGD) element which allocates a PMD to the optical signal which is outputted from said polarization controller; a polarizer

which separates out a specified polarization component from the optical signal which is outputted from said DGD element; a waveform deterioration detector which detects waveform deterioration of the polarization component which has been separated out by said polarizer; a control device which controls said polarization controller so that the waveform deterioration which is detected by said waveform deterioration detector becomes a minimum". As explained on page 42, the penultimate paragraph of the specification, by controlling the polarization controller so that the waveform deterioration becomes a minimum, it is possible to separate out only the optical signal component which has arrived by propagation in the overall PSP of the optical transmission path and of the DGD element.

The invention as recited in Claims 60 and 61 separates "either one of or both of a polarization component parallel to the principal state of polarization of said optical transmission path and a polarization component perpendicular to the principal state of polarization of said optical transmission path".

With the foregoing distinctive steps/structures, the present invention can compensate for, among higher order PMD components, components due to the PSP rotation dependent on wavelength.

In contrast, Watley does not disclose or suggest separating polarization component(s) of the PSP. Therefore, it is impossible for Watley to compensate for, among higher order PMD components, components due to the PSP rotation dependent on wavelength.

Moreover, since Watley does not separate the polarization component(s) of the PSP, it is impossible for Watley to even compensate for PCD components completely.

APA, Hideaki, and Penninckx also fail to disclose or suggest separating polarization component(s) of the PSP. including FIG. 43 and specification page 2, line 18 to page 3, line 13 and FIG. 54 and specification page 4, line 1 to page 5, line 7 of APA, and an element 16 in FIG. 1 and paragraph 0028 of Hideaki pointed out by the Examiner.

Therefore, it is impossible for APA, Hideaki and Penninckx to compensate for the components due to the PSP rotation dependent on wavelength and to even compensate for the PCD components completely.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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